t t	is the Italians were there, but by the end of all fallen into disrepair and were in very possible reconstruct the roads the Ethiopian gover the International Bank for Reconstruction are can to cover the reconstruction and maintenant the work is now being done under the fur	ment made arrangements id Bevelopment for a 20-	ffort with year
I R A t o e	matthe work is now being done under the jur mperial Highway Authority, with the assista sads on which actual construction has been babs in Jima (Jimma), the road from Addis t he road from Combolcia to Assab. Maintenan in many of the other roads, and plans have b construction work to be done on many existin construction of some which do not as yet exi- idational construction had not actually sta-	disdiction of the Ethiop: mee of US technical advi- done are the road from A o Mak'amet (Lekempti) ar ce crews have been work; een formulated for futur g roads; as well as the st. As of October 1954 rtad, but againment	ian isers. Addis ad ing re- the
b ti 2. Ti vi	iditional construction had not actually stating moved into several places in preparations end of the rainy season.  The main reads in Ethiopia come out of Addis seel, with Addis as the hub. The first 10 had are the responsibility of the municipality of the municipal	rted, but equipment was on for work to be done a Ababa like spokes in a am out of Addis on each	kt

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extensively. From the 30th km on to Jima the surface is crushed rock. The width of the road varies from five to seven meters, and the general condition of the road as of 2 Oct 54 was fair. During the rainy season of 1954 (June to October) the road was open, and this was the first time in 10 years that the road was used all year around.

- 5. The general character of the terrain for the first 172 km out of Addis is flat, and from 172 km on into Jima the terrain is very mountainous, the read is winding, and during the rainy season it is somewhat dangerous. There are very sharp curves and there are no guard rails. The maximum grades on the Addis-Jima road occur at the Gibe River going down to the bridge which crosses the river, and coming back up the other side. I do not know what the grade is but it is very steep. In spite of the grade, however, big gasoline trucks with trailers go ever the road, and lewboys hauling graders and dozers can go over it without toe much difficulty, so it is not an impossible grade.
- 6. The bridge over the Gibe River is probably the most important one on the entire road. Its location is 196 km from Addis. It is a concrete and steel structure with a wooden deck. It is very well built. It was constructed by the Italians during their occupation of the country, and I do not believe anything has been done to it since the Italians left. The bridge is about six meters wide, and has about a 12-foot clearance. It is approximately 200 feet in length. It is capable of supporting very heavy loads. I saw a lowbey with a turnadozer cross it, and in the process one of the concrete abutments was broken off because the load was too wide, but the weight was not too great for the bridge. The bridge is so narrow that it is not passable for two cars to pass on it. [Available on loan from Graphics Register is a copy of a color slide showing the bridge over the Gibe River. See item No. 7 in final paragraph of this report.]
- 7. There is another bridge at 264 km out from Addis which does not amount to much, and there is a bridge at 70 km from Addis which has a sement deck and no top. It was built by the Ethiopian Ministry of Public Works, and it is a good bridge.
- 8. Some of the worst hazards on this as well as all other roads in Ethiopia are the Ethiopian and Italian drivers. They are very poor drivers, and it is difficult to pass them on the road. When they drive they put their foot on the accelerator and their hand on the horn, and they expect everyone to clear the road for them. Since they are such poor drivers they have many accidents, often involving (and wrecking) large trucks in which freight is hauled in Ethiopia.
- 9. There are no facilities for major repairs on this road. Minor repairs, such as fixing tires, etc, can be obtained at such places as Uolchitte (Welkitte), Walso (Woliso), and Tulubolla /phonetic/, but these would be very minor repairs. It is possible to buy gasoline and oil, and to obtain water for cars, at nearly all villages. The prices for gasoline and oil are very high, but it is available. There is no drinking water at these places (all water must be boiled for a long time and most of it must be filtered in addition before it can be used as drinking water).
- 10. There is a hotel at Walso (Weliso) which is very good by Ethiopian standards. It is owned by a hotel syndicate and is in good condition. There is also a hotel in Jima which is in rather poor condition, but it is passable. Hone of the other hotels along this road are satisfactory.
- 11. In the summer (about 1 Mevember until June or July) the traffic is much heavier than it is during the rainy season. Minety per cent of the traffic is made up of trucks hauling freight of all kinds from Addis to Jima, and coffee, hides, fresh fruits and vegstables from Jima to Addis. There are two large passenger busses which travel the road daily, and there are four Velkswagen station wagons which carry passengers back and forth over the road, but I do not know how regularly they make the trip. Passenger cars

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en this road are very few. Chevrolets, Fords, and other cars with an sight- or 10-inch clearance could get over the road, but cars with lower clearances would have difficulty in some places where they would have to travel over newly laid gravel.

12. It was possible, as of October 1954, to drive from Addis to Jima by passenger car in 12 hours. An average truck, such as a 1952 series 370 GMC truck with a long wheel base, would take about 16 hours to make the trip.

## Addis Ababa - Assab Road

- 23. The road from Addis Ababa to Assab (Eritrea) is 780 km long. As of October 1954 the road was in good condition all the way. The part of the road that I am particularly familiar with is between Combolcia and Assab. From Assab to a point near Canteneira the road is black top, and from Combolcia going toward Assab there is some black tep, but the remainder of the road is surfaced with crushed rock -- usually inch minus. The road between Sombolcia and Assab is generally in good condition. There were a few sulverts which still needed attention as of October 1954, but there were by-passes to get around those which were not easily passable. At Combolcia there are facilities for major repairs, and I understand that these facilities, which belong to the Imperial Highway Authority and were used during the construction on the road, will be kept there on a permanent basis. The main hazards on the road between Combolcia and Assab are flash floods in the desert area, particularly in June and the early part of the rainy season, and wind and sand storms, which can occur at any time during the year.
- The Addis-Assab road is an all-year road, and it carries a great deal of traffic, most of which is trucking. It is also passable for passenger ears, however, and it takes about two days to drive from one end of the road to the other by passenger car, stopping at Comboleia over night. Trucks driving from Assab to Addis usually take about seven days to make the trip. (Most of the trucks belong to the A Besse Co, a large WK general merchandise company which acts as the exclusive agent for Shell Oil, Good-rich tires, and many other products in Ethiopia.)
- 15. I have not had much experience driving on the road between Addis and Sembolcia, but I understand that about seven hours out of Addis one gets down into the hot country where tires are blown as fast as they can be put on. Passenger cars require six-ply, and trucks use 12- or 14-ply tires, and all tires must be new. Recaps are out of the question for use in this country.
- 16. The Mussolini Tunnel, which was built during the Italian occupation and which is located between Debra Berhan and Debra Sina, could constitute a terrific bettlensek on this road if it were ever blocked. It is located in rough mountainous country, and it is about 500 yards long and about seven meters wide. There are some bridges between Addis and Combolcia, but I do not have information on them.

# Addis Ababa - Hak'amet (Lekempti) Road

The road between Addis Ababa and Mak'amet (Lekempti) is approximately 320 km in length. About 25% of the surface is black top and the remainder is gravel or crushed rock. As of October 195% the road between Addis and Ambo (a distance of about 125 km) was good, and from Ambo to Sire it was quite good in places, in fact there were places along this stretch where the black top was in very good shape. Between Sire and Nak'amet (Lekempti), however, there was practically no road, but it was under construction. I would estimate that as of October 1954 the road was about 50% complete between Sire and Mak'amet. The bridges and grades were in, but more stripping and crushing had to be done before it could be finished. I would estimate that by the middle of 1955 the road will be completed all the way for both trucks and passenger cars as an all-weather road. As of October 1954 there was a great deal of traffic on the road between Addis and Ambo are both

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trucks and passenger cars -- but only the trucks could go beyond Ambo. The width of this road (as well as most of the other roads in Ethiopia) is five to seven meters. The whols road is mountainous from Addis on cut, and there are no rails or fences along the edges, so it is dangerous. There are very few bridges between Addis and Sire, but from Sire on there are some major bridges, all of which have been built within the past two years by an Italian contractor. There are at least six bridges between Sire and Mak'smet, and all of them are made of reinforced concrete. There are no tunnels on the entire road between Addis and Mak'smet. The Mak'smet (Lekempti) road, which is mountainous, drops off going west from Addis, and I would estimate that the total drop is about three thousand feet (the Jims road also drops off as it goes southwest from Addis). There are good repair facilities, and supplies of gasoline and oil, in Ambo, but beyond Ambo these things were unattainable as of October 1954.

### Shashamanna Road

- The Shashamanna Read goes south from Addis to the Kenya border. This road, which is probably the best one in Ethiopia, goes down into the gold country to Adola, where the Emperor's gold mine is located, and beyond. The road goes through flat, tropical country much of the way. From Addis to Bishoftu, about 58 or 60 km out of Addis, the road has a black top surface. A German contractor was working on the road between Bishoftu and Addis while we were there, and he put on parts of the black top. There is also a stretch of road from Filtu to the Kenya border which is black top, and which was built by the Italians during their occupation of Ethiopia. The remainder of the road is surfaced with crushed rock. The road generally is in pretty good condition except during the rainy season when the drainage is poor. The country between Wondo (Wondo) and Adola is hilly -- not mountainous -- and here the ground is very soft. It is necessary to stay on the road, because if one gets six inches off the road and onto the soft shoulders he will sink in the mid. This road seems to have a priority for construction work. In October 1954 rock crushers and various other pieces of equipment were being brought into the area in preparation for work on the road as soon as the rainy season ended. Work had already been started on culverts, and much equipment for putting in new culverts was being brought in. During 1955 when the culverts are completed and the drainage is improved, the road should be in much better shape.
- 19. One of the main bridges on this road crosses the Awash River. The bridge, which is reinforced concrete, is about 200 feet in length and it has a clearance of about 12 feet. It is wide enough for two passenger cars or one truck. It was built by the Imperial Highway Authority. There are mammerous small bridges along the road. A weoden bridge between Shashamanna and Lake Awasa is being rebuilt. The Awasa of Lake Awasa is not to be confused with the Awash of the Awash Siver. Another bridge between Addis and Bishoftu is a wooden structure with a concrete foundation and a four-by-twelve deck planking, and this bridge is in very poor condition. I once saw a crusher towed across this bridge, and I was really surprised that the bridge held up under the load.

# Mejo (Medjio) - Jijiga (Jigjigga) Road

20. The road from Mojo (Modjie) to Jijiga (Jigjigga) is passable, but it is in poor condition. There are several Italian garages in Diredawa, on the Majo - Jijiga Road, where it is possible to have major repairs done. In Biredawa there is an airport and there are several hotels. It is actually considered quite a resert town.

#### Mus Hils Road

21. The road north from Addis to the Rlue Wile is good, and the bridge across the Elue Wile River is good. There is a maintenance crew on this road, but not a construction erew. Beyond the Elue Wile the road is just passable. It is an earth road with no surfacing. There is trucking up to the Elue Wile, but no trucking goes beyond the river.

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#### Compolcia - Massana Road

constructed. They are not high but they are long. Two bridges near Kabbo (Kobo) are nearing completion, and a big bridge near Maych'awu (Maichaw) which was already there but which almost went out in a flood in 1954, had to have extensive repairs and is nearing completion. Two bridges between the border of Fritrea and Asmara were lost two years ago (presumably 1953) and were reconstructed. It is possible to drive from Addis to Massaua (Eritrea and Asmara vere lost two years ago (presumably 1953) and were reconstructed. It is possible to drive from Addis to Massaua (Eritrea about 24 hours of straight driving. The entire road is about one thousand he in length. The road is in better than passable condition now, and it is an all year road. Most of it is crushed rock, and parts of it are black top.

#### Adigrat - Condar Road

23. On the road between Adigrat and Gendar maintenance work rather than construction work has been carried on during the past several years. Trucking goes over the road but it is rather a difficult road to drive -- the main hazard being slides.

#### Future Plans

24. Proposals for the future development of roads in Ethiopia include the improvement of a number of roads which are now no more than tracks — in western Ethiopia and southeastern Ethiopia /as indicated on the photostatic copy of a map of the highways of Ethiopia, published by the Imperial Highway Authority in 1951, which is available on loan from CIA Map Library / Another proposal for future development is the construction of a road from Jims to Gore. It is hoped by the Ethiopian Highway Authority that these proposals can be carried out during the next five-year plan, if the plan is approved.

## Airports and Landing Strips

- 25. There is an airport at Diredawa which has a plain dirt surface, and a runway which is roughly a mile long. Another airport at Ausse (Awash), which also has a dirt surface, has a runway which is capable of accommodating Cenvairs.
- 26. In Massauz and Asmara there are big airports which can handle Convairs.
- 27. There is a landing strip at Cantoniera on the Combolcia Assab Road, which was prepared for bringing in supplies to the camp where the construction error was living for a time while working on the road. The strip was scraped and rolled, and was just big enough for a BC-3 to land and take off during the dry season (the strip could not be used during the wet season). Similar strips were prepared at Dobi, at Sardo, at Tendaho, and at Mille, along the same road. At Combolcia there is a better field, which probably has a grass surface.
- 28. There are no airports or landing strips along the road between Addis and Mak'smat (Lekempti), nor between Addis and Jima. There is, however, a landing strip at Gore, and another one at Gambela, and there is a big airport at Jima. The Italians built this field, and during the Italian occupation it must have been a fine airport. It has a number of hangars and other buildings, but the Ethiopians have not maintained these and they are rapidly disintegrating. The asphalt landing strips are being maintained by the Ethiopian Airlines who use them regularly, and they are in fairly good condition. The Ethiopian Airlines fly DC-3's and Convairs. There are refueling facilities at the Jima airport, but no repair facilities.
- 29. At Awase (Awash) there is a landing strip and there are refueling facilities. There are no airports or landing strips that I know of between Addis and Adola.

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Available on loan from CIA Map Library ware photostatic copies of two maps — one is a map of Addis Ababe and the other is a highway map of Rthiopia. The highway map was prepared in 1951 by the Ethiopian Highway Authority, and the scale is indicated on the map. It shows the primary roads, and the secondary roads (tracks) which the Highway Authority proposes to improve as a part of the Five-Year Plan which they are hoping to have approved in the near future. Hames of cities which appear in parentheses in the above report are the spellings which appear or the Highway map. The map of Addis Ababa was prepared in 1952 or 1953. Map call Nos. 91792-R and 91793-R.

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Available on loan from Graphics Register are 17 colored slides showing Ethiopian roads mentioned shows and terrain surrounding the roads. The photographs were taken between January 1953 and October 1954, and the subject of each slide is as follows:

- I Lake Awaga, on the Shaghamanna Road, taken from the road east of the lake, loaking west. Fall 1953.
- 2 Lake Shale, on the Shashamanna Road, taken from the road east of the lake, looking west. Fall 1953.
- 3 An serial view of a crusher site belonging to the Imperial Highway Authority, on the read between Addis Ababa and Jima, about 330 km from Addis. August 1954.
- 4 Another view of the crusher site at 330 km from Addis, taken from the top of the site. August 1954,
- 5 An aerial view of the Jima Road leading into the town of Jima, with the Jima airport on the left. August 1954.
- 6 View of some vultures working on a donkey careass on the Jima Road about 200 km from Addis on the southwest side of the Gibe River near the river. August 1954.
- 7 Bridge over the Gibe River, on the Jima Road. August 1954.
- 8 View of the terrain near Ambo taken from the road between Addis and Lekempti (Lekemti or Nak'amet). 1953.
- 9 Grusher site on the Jima Road at about 299 km from Addis. August 1954,
- 10 View of the Shashamanna Road at about 300 km from Addis, looking
- 11 Ethiopian Airlines plane, taken at the Jima Airport in August 1954.
- 12 View of the Shashamanna Road about 200 km from Addis, looking south. Fall 1953.
- 13 Jesp and passenger car passing on the Shashamanna Road about 300 km from Addis, looking south. This picture shows a surface of volcanic rack which was used for about 40 km along this road. It is used only when absolutely necessary, and for want of something better, because it pulverizes very easily and blows away. Fall 1953.
- 14 View of a crusher site on the Jima Road, looking north, about 81 km from Addis. 4 Jul 53.
- 15 View of equipment used by the Imperial Highway Authority. Taken at about 81 km from Addis, 4 Jul 53.
- 16 More equipment at 81 km from Addis, 4 Jul 53.
- 17 View of a farm along the Lekempti (Lekemti or Nak'amet) Road, about 20 km from Addis. January 1953.

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